

(8) Calculate the density of oil in the well, $\rho_o \left(\frac{lbm}{cu\ ft} \right)$, using the following equation with the density of oil at the wellhead, $\rho_{WH} \left(\frac{lbm}{cu\ ft} \right)$, calculated in paragraph (b)(6) of this section; and the density of oil at bottom hole conditions, $\rho_{BH} \left(\frac{lbm}{cu\ ft} \right)$, calculated in paragraph (b)(7) of this section:

$$\rho_o \left(\frac{lbm}{cu\ ft} \right) = 0.5 \times (\rho_{WH} + \rho_{BH})$$

(9) Calculate the oil flow rate, $q_o \text{ (cu ft/sec)}$, using the following equation with: the oil formation volume factor, $Bo \text{ (bbl/STBO)}$, as calculated in paragraph (b)(5) of this section; and the estimated oil production rate at the well head, $Q_o \text{ (STBO/day)}$:

$$q_o \left(\frac{cu\ ft}{sec} \right) = Q_o \left(\frac{STBO}{day} \right) \times Bo \left(\frac{bbl}{STBO} \right) \times 5.614 \left(\frac{cu\ ft}{bbl} \right) \times \frac{1}{24 \times 60 \times 60} \left(\frac{day}{sec} \right)$$